

Stormwater Management Financing Case Study

Sarasota County, Florida

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Sarasota County is located in southwest Florida on the Gulf Coast between St. Petersburg and Tampa Bay. The population of the county is near 300,000 with approximately 227,350 people living in the unincorporated county, 52,650 in the City of Sarasota, and the remainder in the municipalities of Venice, North Port, and Longboat Key. The area has experienced rapid growth over the past fifty years and is projected to grow 14% in the next decade. Sarasota County is a coastal county that has experienced major flooding events three times in the last ten years (1992, 1995, and 1998).

Stormwater Management History and Utility Creation

Sarasota County has had a stormwater management division since 1981 when the Aquatic Plant Control Department became part of the Department of Transportation. The department completed a master plan for the county in 1987 that identified the county's drainage basins and recommended the enactment of a stormwater utility fee as a dedicated funding source. The Stormwater Environmental Utility was established in 1989. An inter-local agreement between the City of Sarasota and the county was drawn up in 1991 and revised in 1997 giving the utility responsibility for portions of the drainage system in the city of Sarasota in addition to the parts in the unincorporated county. Legal authority to establish a stormwater utility in Sarasota County was provided by Chapter 403 and Section 197.3632 of the Florida Statutes that allow communities to create stormwater benefit areas and charge special assessments.

Since the establishment of the stormwater utility, the county has been working on master plans for each of its 26 drainage basins. After a severe flooding event in 1995, the work schedule was accelerated so that all of the master plans will be completed by the end of the year 2001. Sarasota County's stormwater utility started its first capital improvement projects in 1994 and began assessing drainage basins for Stormwater Improvement Assessments in 1995. The same year, Sarasota County and its joint applicants North Port, Venice, Sarasota, Longboat Key, and the Florida Department of Transportation received the first NPDES permit issued in the state. In 1999, the county reorganized its administrative divisions and the Stormwater Management Division became part of the Public Works Business Center, the department that was historically responsible for maintaining the county's drainage system.

Utility Objectives

The Sarasota County Stormwater Environmental Utility's objectives include reducing the threat of flooding, improving surface water quality, and encouraging appropriate development practices in the region.

Utility Responsibilities

The Stormwater Environmental Utility is responsible for the administration of the Sarasota County NPDES permit requirements including master planning, the capital improvement program, inspection and maintenance of the stormwater management system, and the proper use, storage, and disposal of sediments, herbicides, and other materials. The utility is also responsible for public relations, customer service, flood control, development review, and the administration of the stormwater utility's funding and other activities. The utility retains a full-time equivalent staff of approximately 120 employees and contributes to the cost of 46 other county employees that provide stormwater services. The stormwater utility is not responsible for street sweeping, monitoring water quality, or enforcing county water pollution ordinances. Street sweeping is done by the Road and Bridge Division staff using equipment that was purchased by the stormwater utility. Water quality monitoring and enforcement duties are the responsibilities of the Environmental Services/Pollution Control Department.

Utility Organization

Master Planning

The utility is divided into four main sections: Master Planning, Capital Improvements, Maintenance, and Development Review. The Master Planning Division is responsible for the completion of each drainage basin's master plan. For each of the 26 drainage basins, the master planning crew inspects the existing stormwater system, identifies maintenance, repair, and replacement needs, develops a schedule for needed improvements, and estimates the costs of the needed improvements. During the assessment process, the team also identifies methods for reducing the pollutant load that enters the county's water supply and analyzes current land use patterns to determine future stormwater management needs in the area. The Master Planning Division engineers use a computerized modeling program based on the physical characteristics of each basin to determine the impacts of storms of varying intensity and the effects of different types of improvements on the level of stormwater service provided to the basins.

Capital Improvements

The Capital Improvements Division is responsible for the administration of the Five-Year Capital Improvement Plan. Projects that are included in the Capital Improvement Plan are usually recommended by the Master Planning Division and cost over \$85,000 to implement. The Capital Improvements division works with the Master Planning Division to identify and design improvement projects and consults the Drainage Operations staff regularly to learn more about the current conditions of the project sites and ensure that the operations staff will be able to repair and maintain the new projects after their completion. The capital improvements staff consults with the Public Works Business Center's Real Property Officer on projects involving easements and property acquisitions and with the County Attorney's Office and the Environmental Services Natural Resources Section to ensure that the construction projects comply with county regulations. The Road Program Construction Division of the Department of Public Works also cooperates with the Stormwater Management staff to administer the bidding, inspection, and accounting aspects of the capital improvement projects.

Maintenance

Construction projects that cost less than \$85,000 are the responsibility of the maintenance division. The maintenance division also conducts regularly scheduled inspections of the county's stormwater system, performs routine maintenance duties, and responds to emergency maintenance requests. Maintenance requests are handled using a rating system to ensure the uniform handling of all of the county's maintenance requests. The maintenance needs of the county stormwater system are prioritized by land use category, the type of flooding experienced, and the type of facility in need of repair. High-density residential developments, structure flooding problems, and main stormwater facilities are given the highest priority. The maintenance staff also works closely with the Capital Improvements and Master Planning Divisions to ensure that the computerized modeling system is up-to-date and that the maintenance efforts undertaken are consistent with the overall goals for the drainage basin.

Development Review

The Development Review section is responsible for reviewing proposed development plans to ensure that the plans meet the county's infrastructure construction standards that are outlined in the county land development ordinance. The county currently requires all new developments to meet the 100-year storm event criteria and ensure that the runoff rate from new developments is less than or equal to the pre-development rate. Some areas of the county are known to be problematic during storms and the Development Review section applies more stringent standards to those areas until capital improvement and maintenance projects are completed to rectify those situations.

Initial Rate Structure

Sarasota County's stormwater utility initially assessed its customers using Equivalent Residential Units (ERU's) that were based on the average amount of impervious area on a single-family parcel. The ERU rate structure that was implemented with the establishment of the utility in 1989 had two property classes: residential and non-residential. Residential customers were charged a flat fee that was based on the average amount of impervious area on a single-family lot (one ERU) while non-residential customers were charged individually based on the amount of impervious area on their parcels. The initial rate structure did not charge the owners of undeveloped parcels and did not include credits for onsite stormwater controls.

Current Rate Structure

The rate structure was changed in 1994 to a more equitable system that takes into account the pervious and impervious areas of each parcel and includes several new property classes. The Sarasota County Stormwater Environmental Utility currently assesses its customers based on Equivalent Stormwater Units (ESU's) that are based on the effective impervious area of the average single-family parcel. One ESU was determined to be 3,153 square feet based on a statistical sample of single-family residential parcels that were examined by a consulting firm

hired by the county. Effective Impervious Area as defined by the Sarasota County utility is calculated as:

“the sum of (I) the hard surfaced areas which either prevent or severely restrict the entry of water into the soil or cause increased water runoff (the “Impervious Area”) minus any exempt areas (collectively, the “Net Impervious Area”), and (II) the amounts computed by multiplying for each pervious area category (A) the surface area which, under standard conditions, is permeable to Stormwater runoff and other surface water (the “Pervious Area”) minus any exempt areas (collectively, the “Net Pervious Area”) by (B) a factor based upon the Pervious Area Category.” (Sarasota County, Florida Stormwater Utility Revenue Bonds, Series 1999, page 17).

The pervious area categories and factors are listed in Table 1. The multiplication factors are based on the intensity of development on the parcel with land in its natural state receiving a factor of zero and urban pervious land receiving a factor of 0.148.

Table 1: Pervious Area Factors by Category

Pervious Area Type	Natural	Pasture/ Meadow	Groves/ Orchards	Tilled Agriculture	Open Space	Urban Pervious
Factor	0.000	0.002	0.017	0.030	0.037	0.148

Example:

A two-acre orchard parcel with two buildings and a paved parking area on it totaling 10,000 square feet of impervious area would be charged for an effective impervious area of 11,304.04 square feet.

$$2 \text{ acres} * 43,560 = 87,120 \text{ ft}^2 \text{ Total Parcel Area}$$

$$87,120 \text{ ft}^2 \text{ Total Parcel Area} - 10,000 \text{ ft}^2 \text{ Impervious Area} = 77,120 \text{ ft}^2 \text{ of Pervious Area}$$

$$77,120 \text{ ft}^2 \text{ Pervious Area} * 0.017 \text{ Groves/Orchards Rate Factor} = 1,311.04 \text{ ft}^2 \text{ Net Pervious Area}$$

$$1,311.04 \text{ ft}^2 \text{ Net Pervious Area} + 10,000 \text{ ft}^2 \text{ Net Impervious Area} = 11,311.04 \text{ ft}^2 \text{ Effective Impervious Area}$$

Types of Assessments

Customer Service

The user fee has three components: the customer service assessment, the planning assessment, and the maintenance assessment. The customer service assessment is a uniform charge that everyone in the service area pays to cover the costs of the administration of the stormwater utility fee system. Currently, the customer service assessment is \$3.89 per parcel per year.

Planning Assessment

The planning and maintenance assessments are based on the number of ESU's in each parcel. The planning charge, currently \$20.41 per ESU per year, covers master planning, engineering and inspection services, development review, system design and management costs.

Maintenance

The maintenance charge covers ditch and canal cleaning and mowing, the application of herbicides, the cleaning and repair of the stormwater system components, and low-cost construction projects. The maintenance charge is currently \$56.15 per ESU per year.

The charges for each of the three user fee components are determined when the stormwater utility's staff determines the amount of revenue that must be generated to cover its operating expenses, debt service requirements, and capital improvement plans for the next fiscal year. The anticipated stormwater service charges are published in a local newspaper then presented at a Board of County Commissioners meeting and mailed to each Sarasota county property holder who is subject to the assessments before they can be adopted. The current base charge for a medium sized single-family parcel (one ESU) is \$80.45 annually, or approximately \$6.70 per month.

Capital Improvement Assessments

Stormwater utility customers may also be charged a capital improvement assessment if their parcel is located in a drainage basin that is scheduled for capital improvements during that billing cycle. The capital improvements assessment is based on the number of ESU's per parcel and is determined by dividing the capital improvement costs of the basin by the total of ESU's in the basin. Capital improvement costs that are currently being charged range from \$3.60 to \$111.45, depending on the capital improvement needs of the basin. Sarasota County's stormwater utility was the first in Florida to charge its customers based on the drainage basin the property is located in rather than charge everyone uniformly for countywide capital improvement expenses.

Example:

The orchard parcel with an effective impervious area of 11,311 square feet would be charged for approximately 3.6 equivalent stormwater units. If the orchard were located in a basin with no capital improvement assessment, its base charge would be \$289.62 annually.

$$11,311 \text{ ft}^2 \text{ Effective Impervious Area} / 3,153 \text{ ft}^2 = 3.6 \text{ ESU's}$$

$$3.6 \text{ ESU's} * \$80.45 \text{ annual charge for one ESU} = \$289.62$$

Property Classifications

The Sarasota County Environmental Stormwater Utility currently has eight major parcel classifications that it uses to assign property owners the appropriate number of ESU's. Each property in the stormwater service area is assigned to one of the following categories: 1) single family residential; 2) single family vacant lot; 3) mobile home parcel; 4) duplex parcel; 5) condominium residential; 6) condominium nonresidential; 7) mixed use condominium; 7) general parcels. The single-family residential and vacant parcels are subdivided into small, medium, and large categories and given rate factors according to their size. The ESU calculations for each type of parcel are shown in Table 2.

Table 2: Equivalent Stormwater Units (ESU) Calculations

Parcel Type	ESU's
Small Single Family Residential ($< 8,100$ square feet)	0.9
Medium Single Family Residential ($8,100 - 14,600$ square feet)	1.0
Large Single Family Residential ($> 14,600$ square feet)	1.7
Small Single Family Vacant Lot ($< 8,100$ square feet)	0.3
Medium Single Family Vacant Lot ($8,100 - 14,600$ square feet)	0.4
Large Single Family Vacant Lot ($> 14,600$ square feet)	1.0
Mobile Home	0.7
Duplex	calculated the same as a single family parcel of equal size
Condominium Residential	Effective Impervious Area of Parcel + Pro Rata Share of Common Areas (cannot exceed 1.7)
Condominium Nonresidential	Effective Impervious Area of Nonresidential Areas (excluding streets) is divided pro-rata among condominium owners
Condominium Mixed Use	Effective Impervious Area of Nonresidential Areas (excluding streets) is divided pro-rata among condominium owners based on unit type
General Parcels	Effective Impervious Area divided by 3,153

Example:

A mobile home parcel would pay only \$56.45 annually in a basin with no capital improvement assessments while a large single-family residential parcel would pay \$136.77.

Mobile Home:

\$80.45 base charge per ERU * 0.7 mobile home rate factor = \$56.45

Large Single-Family Residential Parcel

\$80.45 base charge per ERU * 1.7 large single-family residential parcel rate factor = \$136.77

Credits and Exemptions

The stormwater utility's customer database is based on information obtained from the property appraiser's office and additional information gathered by the utility staff. The database is updated regularly and bills are submitted once a year for collection along with the county property tax bills. Churches and non-profit organizations are charged for stormwater services and the county's right to charge such groups was upheld by the Florida Supreme Court in the case Sarasota County vs. Sarasota Church of Christ in 1995. Property owners who do not pay their stormwater fees will have a lien placed on their property and the utility can initiate foreclosure on properties with unpaid stormwater assessments.

The Stormwater Environmental Utility has credits available to property owners who have private stormwater management systems serving their property. Credits are calculated based on three factors: runoff quantity, runoff quality, and discharge rate. For agricultural land, the runoff quantity component constitutes 50% of the credit and runoff quality and discharge rate constitute 25% each. For non-agricultural parcels, runoff quantity and discharge rate constitute 40% each and runoff quality accounts for the remaining 20%. Government property, schools, and rights-of-way are exempt from the stormwater charges.

Utility Budget**Revenue**

The Stormwater Environmental Utility's expected revenue for the fiscal year 2001 totals \$13,880,074 in service assessments and \$6,130,449.50 in capital improvement assessments (See Table 3). The utility has no other sources of revenue. The service assessments result in a budget with revenues of \$587,806 expected for customer service, \$3,719,528 for planning, and \$9,572,740 for maintenance. The capital improvement assessments are usually used to fund capital improvement projects over a five-year period but larger projects may be financed through other sources including the Florida Department of Environmental Protection's revolving loan

fund, Manasota Basin Board Grants, and cooperative agreements with agencies such as the Florida Department of Transportation. Sarasota County issued its first stormwater improvement bonds in 1999 to cover several long-term projects that required a significant amount of money in order to begin construction. The bonds were well received and more may be issued to fund future projects.

Table 3: Stormwater Utility Revenue Sources, Fiscal Year 2001

Assessment	Revenue Generated
Customer Service	\$587,806
Planning	\$3,719,528
Maintenance	\$9,572,740
Total Service Assessments	\$13,880,074
Capital Improvement Assessments	\$6,130,449.50
Total Assessments (Service and CIP)	\$20,010,523.50

Public Information

Master Plan Meetings

The Sarasota County stormwater utility conducts an ongoing public information campaign to ensure that the ratepayers understand what their money is being used for and why stormwater management is critical to the well being of the county's residents. The utility schedules two meetings during the master planning effort in each of the twenty-six drainage basins to meet with the public and discuss their concerns. The first meeting is used by the utility to gather information about the basin from the residents who know it best. The utility customers who attend the first meeting are asked to fill out a questionnaire about flooding problems in their basin and identify problems that should be addressed in the basin master plans. The utility presents the basin master plan to the public at the second annual meeting to explain what the basin's needs are, how the needs will be addressed in the upcoming years, and how much the repair and replacement projects will cost.

Capital Improvement Plan Meetings

Sarasota County stormwater officials also schedule public meetings to discuss new capital improvement projects. All of the property owners who will be affected by a new capital improvement project are invited to a meeting during the design phase that "sells" the project to residents. The utility staff presents the benefits and costs of each proposed project to the public for comment so that they will understand what the capital improvement assessment in their basin will be paying for and why it is necessary. The meeting also gives the public a chance to reject the new assessments and lobby the Board and the stormwater utility to redesign or abandon the project. The stormwater utility staff is also available to speak at private meetings and has been invited on several occasions to speak to homeowner and professional organizations to address particular concerns.

Publications

Every year before the tax assessments are mailed, the Sarasota County stormwater utility publishes a newsletter called *Stormwater Update* that is inserted into area newspapers. The newsletter answers some of the public's most frequently asked questions about the stormwater user fees, how they are calculated, and what they pay for. Updates to the basin master plans and capital improvement projects are published along with a list of maintenance projects that were completed during the past year. Information about current maintenance and capital improvement projects is also provided on the county's website, <http://www.co.sarasota.fl.us>. Residents can print maintenance request forms and read or order monthly updates from the stormwater utility using a form on the Department of Public Works page.